Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Parts 2 and 95 of the	)	ET Docket No. 09-36
Commission's Rules to Provide Additional	)	
Spectrum for Medical Device	)	
Radiocommunication Service in the	)	
413–457 MHz Band	)	

To: The Commission

Ex Parte Comments of EIBASS to the July 7, 2011, AMF *Ex Parte* Comments and the June 17, 2011, SBE *Ex Parte* Comments

Engineers for the Integrity of Broadcast Auxiliary Services Spectrum (EIBASS) hereby respectfully submits its *ex parte* comments in the above-captioned notice of proposed rulemaking relating to medical micro-power network service (MMNS) devices at 413–457 MHz. These comments are in response to the July 7, 2011, Alfred Mann Foundation (AMF) *ex parte* filing, in turn responding to a June 17, 2011, *ex parte* filing by the Society of Broadcast Engineers, Inc. (SBE).

I. AMF Comments Regarding the SBE *Ex Parte* Comments Are Flawed

1. AMF disputes the flaws pointed out in the June 17, 2011, SBE *ex parte* comments, which discussed the April 8 and May 3, 2001, *ex parte* filings by AMF; those AMF filings included reports by ITT/JSC[1] and by Aerospace[2] regarding the MMNS proposed by AMF. AMF claims that those studies demonstrate that MMNS devices operating in one of the four bands proposed by AMF, namely 451–457 MHz, would not receive debilitating interference from Part 90 co-channel Land Mobile stations. However, those reports failed to consider co-channel Part 74 Broadcast Auxiliary Services (BAS) Remote Pickup (RPU) stations operating at 455–456 MHz.

2. AMF again makes claims regarding ITT/JSC and Aerospace reports that those reports don't substantiate. EIBASS agrees with SBE that the failure of those reports to include RPU stations, with their different from Land Mobile station duty cycles, makes both studies flawed

[1] ITT Corporation/Joint Spectrum Center memorandum dated March 1, 2011.
[2] *Alfred Mann Foundation (AMF) Medical Micropower Network (MNN) Wired Test Report* by Aerospace, dated November 3, 2010.

and fails to prove that MMNS operations, if imprudently allowed at 451–457 MHz, would not receive harmful interference BAS RPU operations. In that event, all of the AMF arguments about accepting secondary status and accepting interference from incumbent, licensed, operations would likely be ignored, and the Commission would again be put in the position of limiting the operation of a licensed service to protect an unlicensed, but medical, use. EIBASS does not want to see the digital television (DTV) "notify health care facilities" fiasco repeated, but that is exactly what is likely to happen if the Commission includes 451–457 MHz for MMNS.

3. The instant AMF *ex parte* reply to the SBE filing suffers from the same problems as the June 8, 2011, AMF *ex parte* reply to the May 19, 2011, EIBASS *ex parte* filing: It ignores that high-power radar transmitters will not be close to a medical facility, whereas a portable RPU remote broadcast might well be originating from a medical facility. For example, a remote broadcast in support of a fund raising event, such as a "Jump Rope for Health" or similar event, or coverage of a news event at a medical facility. The JSC and Aerospace studies also failed to address the case of an MMNS-equipped patient riding in an ambulance, with an emergency medical technician (EMT) with a hand-held radio transmitter ("handie-talkie") being used inches from the patient with the implanted devices. Had not both SBE and EIBASS pointed out these scenarios in earlier filings, the failure of the ITT/JSC and Aerospace reports to include them might be understandable. But since SBE and EIBASS did point these out, EIBASS can only conclude their omission means that AMF didn't want those problematic scenarios addressed, in the hope that the Commission wouldn't recognize the problem, or that SBE and/or EIBASS wouldn't point out the omission. Bad gamble by AMF.

4. For example, in the ITT memorandum, at page two, the report shows a "required separation distance." While a required separation distance could likely be maintained to a fixed, land mobile base station antenna mounted on a hospital building's roof, such separation to a portable, temporarily-rigged RPU antenna or a hand-held transceiver could not.

5. EIBASS doesn't doubt (and has said so in its filings) that AMF's interference mitigation techniques for the master control unit (MCU) might work as claimed for the implant-to-MCU path, because the MCU can afford the size and power consumption needed for sophisticated interference mitigating techniques; what EIBASS doubts is how practical these techniques would be for the control signal path from the MCU to the implanted devices, since an RF device small enough to be implanted in a patient must have severe limits on its power consumption and thus

signal processing capabilities, as well as restraints on the implanted receiver's front end selectivity.

II. RPU Signals Can Have Much Wider Bandwidths Than Land Mobile Signals

6. In addition to the different duty cycle that an RPU remote broadcast can have compared to conventional Land Mobile duty cycles, RPU stations are not subject to narrow banding (WT Docket 99-87). Further, RPU remote broadcasts can use channel bandwidths of 50 kHz and 100 kHz for remote broadcasts. The ITT/JSC and Aerospace reports don't address these issues, and there is no evidence that the testing included the effectiveness of interference mitigating techniques against long duration 50 kHz or 100 kHz wide signals.

III. AMF's "Graceful Shutdown" Claim Is Not Credible

7. As EIBASS has stated before and reiterates here, we also don't find AMF's "graceful shutdown" claim to be credible; no more than a "graceful shutdown" of a pair of crutches that break, or a wheel falling off of a wheelchair, would be. AMF's definition of "graceful shutdown" appears to be simply that no bogus commands would be generated. But EIBASS believes that for any patient needing implanted muscle stimulators, especially after this medical intervention has moved out of the laboratory and starts being used by real-world patients, loss of communications and loss of implanted muscle stimulator function can never be graceful.

IV. Use of Unprotected Frequencies for a Critical Medical Application Is a Bad Idea and Is Reckless

8. AMF doesn't even try to address our point that medical devices using unprotected, unlicensed, Part 15 (or the equivalent thereof) frequencies is a bad idea on its face. If the medical application is important enough to be needed, it's important enough to have an allocation where the use is primary and protected. That rules out 450–470 MHz, because of all the incumbent users.

V. Summary

9. Neither the June 8 nor the July 7 AMF *ex parte* filings have changed any of the EIBASS objections to MMNS at 451–457 MHz. While EIBASS applauds the benefits that MMNS can bring to persons suffering from nerve loss due to disease or traumatic injury, the 451–457 MHz band is not the place to be doing it. In a previous filing, EIBASS noted the classic line in the Hippocratic Oath about doing no harm. After reading the July 7 AMF *ex parte* filing, EIBASS is left wondering if all parties to this endeavor still subscribe to that tenet.

Respectfully submitted,

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